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What is claimed is:

- 1. An apparatus for eatalyzing a reaction on a substrate comprising:
 - a light source;
 - a micromirror positioned to redirect light from said light source toward said substrate;
 - a computer connected to, and controlling, said micromirror; and
- a reaction chamber is placed in the path of light redirected by said micromirror,

wherein light that is redirected by said micromirror catalyzes a chemical reaction proximate

said substrate in said reaction chamber.

- 2. The apparatus of claim Lynerein said light source is a UV light.
- 3. The apparatus of claim 1 wherein said light source produces visible light.
- 4. The apparatus of claim 1 further comprising a lens between said micromirror and said substrate.
- 5. The apparatus of claim 4 wherein said lens id further defined as a lens system, and wherein said lens system can change the magnification of light reflected by said micromirror.
- 76. The apparatus of claim 1 wherein said micromirror is further defined as a micromirror array.

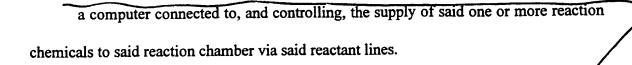
- The apparatus of claim 1 further comprising a diffusion lens between said light source and said micromirror.
- 8. The apparatus of claim 1 wherein said light interacts with a novolak resin proximate said substrate to produce a photoresist pattern.
- 9. The apparatus of claim 1 wherein said light catalyzes the synthesis of a nucleotide base proximate said substrate.
- 10. The apparatus of claim 1 wherein said light catalyzes the synthesis of an amino acid residue proximate said substrate.
- 11. The apparatus of claim 1 wherein said light catalyzes a reaction involving a molecule proximate said substrate.
- 12. The apparatus of claim 1 wherein said light crosslinks a molecule proximate said substrate.
- 13. The apparatus of claim 1 further comprising:

a reaction chamber disposed about said substrate;

one or more reactant lines connected to said reaction chamber;

one or more reaction chemicals connected to said reactant lines; and

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- 14. The apparatus of claim 13 wherein said one or more of said reaction chemicals is involved in a chemical reaction when exposed to light.
- 15. An apparatus for catalyzing a reaction on a substrate comprising: a light source;

a micromirror positioned to redirect light from said light source toward said substrate;

a reaction chamber disposed about said substrate;

one or more reactant lines connected to said reaction chamber;

one or more reaction chemicals connected to said reactant lines; and

a computer connected to, and controlling, said micromirror and the supply of said one or more reaction chemicals to said reaction chamber via said reactant lines, wherein a light catalyzable reaction occurs proximate to the site where light produced by said light source and redirected by said micromirror strikes said substrate.

- 16. The apparatus of claim 15 wherein said light source is a UV light.
- 17. / The apparatus of claim 15 wherein said light source produces visible light.

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- 18. The apparatus of claim 15 wherein said light source is a xenon lamp, or a mercury lamp, or a laser or a combination thereof.
- 19. The apparatus of claim 15 further a lens system comprising:

 a diffusion lens between said light source and said micromirror; and
 a lens between said micromirror and said substrate.
- 20. The apparatus of claim 15 wherein said micromirror is further defined as a micromirror array.
- 21. The apparatus of claim 15 wherein said light interacts with a novolak resin proximate said substrate to produce a photoresist pattern.
- 22. The apparatus of claim 15 wherein said light catalyzes the synthesis of a nucleotide base proximate said substrate.
- 23. The apparatus of claim 15 wherein said light catalyzes the synthesis of an amino acid residue proximate said substrate.
- 24. The apparatus of claim 15 wherein said light catalyzes a reaction involving a molecule proximate said substrate.

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- 25. The apparatus of claim 15 wherein said light crosslinks a molecule proximate said substrate.
- 26. The apparatus of claim 15 further comprising a total internal reflection mirror disposed in a position to redirect light from said light source into said micromirror array toward said substrate.
- 27. The apparatus of claim 15 wherein said substrate is mounted on a movable platform that can be controlled via a computer to allow for multiple repetitive exposures of said substrate to light reflected by said micromirror.
- 28. A method of patterning on a substrate comprising the steps of:

 generating a light beam;

 illuminating a micromirror with said light beam;

 redirecting said light beam with said micromirror onto a substrate; and

 catalyzing a light sensitive reaction proximate to the surface of said substrate using
 said redirected light beam in a predetermined pattern.
- 29. The method of claim 28 further comprising the step of controlling, using a computer, said micromirror.

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- 30. The method of claim 28 wherein said step of redirecting said light beam is accomplished using a micromirror array.
- 31. The method of claim 28 wherein said illuminating light beam is further defined as a UV light.
- 32. The method of claim 28, further comprising the step of: obtaining a substrate; and

depositing a novolak resin on said substrate prior to redirecting said a light beam to pattern said photoresist.

- 33. The method of claim 28, wherein said step of catalyzing a light sensitive reaction proximate to the surface of said substrate is further defined as patterning a photoresist disposed proximate said substrate.
- 34. The method of claim 28, further comprising the steps of:

 positioning said substrate with a reaction chamber;

 flooding said substrate with a light catalyzable reaction chemical; and

 exposing said light catalyzable reaction chemical to light using said micromirror to

 catalyze a chemical reaction at the site where light strikes said substrate.

- 35. The method of claim 28 wherein said step of catalyzing a light sensitive reaction proximate to the surface of said substrate is further defined as the synthesis of a nucleotide base proximate said substrate.
 - 36. The method of claim 28 wherein said step of catalyzing a light sensitive reaction proximate to the surface of said substrate is further defined as the synthesis of an amino acid residue proximate said substrate.
 - 37. The method of claim 28 wherein said step of catalyzing a light sensitive reaction proximate to the surface of said substrate is further defined as involving a molecule proximate said substrate.
 - 38. The method of claim 28 wherein said step of catalyzing a light sensitive reaction proximate to the surface of said substrate is further defined as crosslinking a molecule proximate said substrate.

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